

## APPENDIX F

# Floodplain Crossings and Compensatory and Detention Storage Requirements

TABLE F-1  
Floodplain Crossings, No-Action Alternative (Baseline)

Watershed/ Subwatershed	Floodplain Crossing Location/Description	Crossing Length (ft)	Improvement Width <sup>a</sup> (ft)	Crossing Type
<b>Quentin Road Improvement, Des Plaines River Watershed</b>				
1. Buffalo Creek	South Fork Tributary B to Buffalo Creek north of US 12 in the Village of Kildeer.	150	36	Transverse
2. Buffalo Creek	South Fork Tributary B to Buffalo Creek south of East Cuba Road in the Village of Kildeer.	250	36	Transverse
3. Buffalo Creek	Buffalo Creek north of East Cuba Road in the Village of Kildeer.	50	36	Transverse
<b>Lake-Cook Road Improvement, Des Plaines River Watershed</b>				
4. Lower Des Plaines River	Des Plaines River floodplain west of IL 21/US 45 in unincorporated Lake County.	400	30	Transverse
5. Lower Des Plaines River	Des Plaines River east of IL 21/US 45 in unincorporated Lake County.	700	30	Transverse
<b>I-94 Improvement, Chicago River Watershed</b>				
6. West Fork	West Fork North Branch Chicago River south of Duffy Lane in the Village of Bannockburn.	2,000	24	Longitudinal
7. West Fork	West Fork North Branch Chicago River south of IL 22 in the Village of Bannockburn.	2,750	12	Longitudinal
8. West Fork	West Fork North Branch Chicago River north of IL 22 in the Village of Lincolnshire, the City of Lake Forest, and unincorporated Lake County.	5,750	24	Longitudinal
<b>IL 22 (Half Day Road) Improvement, Fox River Watershed</b>				
9. Flint Creek	Flint Creek east of Kelsey Road in the Village of Lake Barrington.	150	42	Transverse
10. Flint Creek	East Tributary Flint Creek floodplain east of Kelsey Road in the Village of Lake Barrington.	200	42	Transverse
11. Flint Creek	Honey Lake Drain east of IL 59 in the Village of North Barrington.	150	42	Transverse
<b>IL 22 (Half Day Road) Improvement, Des Plaines River Watershed</b>				
12. Indian Creek	South Branch Indian Creek east of Quentin Road in the Village of Kildeer.	200	21	Longitudinal

**TABLE F-1**  
Floodplain Crossings, No-Action Alternative (Baseline)

Watershed/ Subwatershed	Floodplain Crossing Location/Description	Crossing Length (ft)	Improvement Width <sup>a</sup> (ft)	Crossing Type
13.Indian Creek	South Branch Indian Creek floodplain east of Quentin Road in the Village of Kildeer.	200	21	Longitudinal
14.Indian Creek	Indian Creek east of Krueger Road in the Village of Kildeer.	700	42	Transverse
15.Indian Creek	Tributary to South Branch Indian Creek east of Old McHenry Road in the Village of Long Grove.	450	42	Transverse
16.Indian Creek	South Branch Indian Creek east of IL 83 in the Village of Long Grove.	250	42	Transverse
17.Indian Creek	South Branch Indian Creek floodplain east of IL 83 in the Village of Long Grove.	300	24	Transverse
18.Indian Creek	Indian Creek east of IL 21 in the Village of Lincolnshire.	1,150	42	Transverse
19.Indian Creek	Indian Creek floodplain east of IL 21 in the Village of Lincolnshire.	600	42	Transverse
20.Lower Des Plaines River	Des Plaines River east of IL 21 in the Village of Lincolnshire.	1,650	42	Transverse
<b>IL 22 (Half Day Road) Improvement, Chicago River Watershed</b>				
21.West Fork	West Fork North Branch Chicago River west of I-94 in the Village of Lincolnshire.	200	42	Transverse
<b>Buffalo Grove Road Improvement, Des Plaines River Watershed</b>				
22.Aptakisic Creek	Aptakisic Creek south of Aptakisic Road in unincorporated Lake County.	900	24	Transverse
<b>Busch Road Improvement, Des Plaines River Watershed</b>				
23.Aptakisic Creek	Aptakisic Creek west of Weiland Road in the Village of Buffalo Grove.	150	12	Transverse
<b>IL 83/60 Improvement, Des Plaines River Watershed</b>				
24.Indian Creek	Diamond Lake floodplain south of Midlothian Road in unincorporated Lake County.	100	30	Transverse
<b>Butterfield Road Improvement, Des Plaines River Watershed</b>				
25.Bull Creek	Bull Creek floodplain north of IL 176 in the Village of Libertyville.	350	36	Longitudinal
26.Bull Creek	Bull Creek north of IL 176 in the Village of Libertyville.	200	36	Transverse
<b>Peterson Road Improvement, Fox River Watershed</b>				
27.Squaw Creek	Squaw Creek north of IL 60 in the Village of Round Lake Park.	600	21	Longitudinal

**TABLE F-1**  
Floodplain Crossings, No-Action Alternative (Baseline)

Watershed/ Subwatershed	Floodplain Crossing Location/Description	Crossing Length (ft)	Improvement Width <sup>a</sup> (ft)	Crossing Type
<b>IL 21 Improvement, Des Plaines River Watershed</b>				
28. Bull Creek	Bull Creek north of IL 137 in unincorporated Lake County.	350	24	Transverse
29. Upper Des Plaines River	Belvidere Road Tributary south of US Route 120 in the Village of Gurnee.	200	24	Transverse
30. Upper Des Plaines River	Warren Cemetery Tributary south of I-94 in the Village of Gurnee.	300	24	Transverse
<b>Washington Street Improvement, Des Plaines River Watershed</b>				
31. Mill Creek	Mill Creek floodplain at IL 83 in unincorporated Lake County.	200	24	Longitudinal
32. Mill Creek	Mill Creek floodplain east of Atkinson Road in the Village of Grayslake.	750	12	Longitudinal
33. Mill Creek	Mill Creek west of US 45 in the Village of Grayslake.	400	24	Transverse
<b>Bradley Road Improvement, Chicago River Watershed</b>				
34. Middle Fork	Middle Fork North Branch Chicago River east of I-94 in unincorporated Lake County.	1,300	44	Transverse
<b>Martin Luther King Drive (22nd Street) Improvement, Chicago River Watershed</b>				
35. Skokie River	Skokie River floodplain east of US 41 in the City of North Chicago.	800	36	Transverse
<b>Rollins Road Improvement, Des Plaines River Watershed</b>				
36. Mill Creek	Mill Creek east of Drury Road in unincorporated Lake County.	600	24	Transverse
37. Mill Creek	Mill Creek and associated floodplain east of US 45 in the Village of Gurnee.	200	24	Transverse
38. Mill Creek	Mill Creek and associated floodplain south of IL 132 in the Village of Gurnee.	200	60	Transverse

<sup>a</sup> The improvement width is equal to the proposed roadway width minus the existing roadway width.

**TABLE F-2**  
Additional Impervious Area, No-Action Alternative (Baseline)

Mainline Routes of Baseline Improvements	Existing Paved Area (ft <sup>2</sup> )	Proposed Paved Area (ft <sup>2</sup> )	Additional Impervious Area (ft <sup>2</sup> )
Lake-Cook Road	1,299,000	1,948,000	649,000
IL 22	2,572,000	7,074,000	4,502,000
I-94	1,178,000	1,964,000	786,000
Quentin Road	817,000	1,682,000	865,000
Busch Road	165,000	247,000	82,000
Buffalo Grove Road	304,000	608,000	304,000
Weiland Road	NA <sup>a</sup>	253,000	253,000
IL 60/IL 83	608,000	1,115,000	507,000
Butterfield Road	494,000	1,236,000	742,000
US 45	760,000	2,281,000	1,521,000
Peterson Road	482,000	1,366,000	884,000
Midlothian Road	NA <sup>a</sup>	256,000	256,000
IL 21	1,090,000	1,635,000	545,000
Bradley Road	NA <sup>a</sup>	302,000	302,000
Martin Luther King Drive	178,000	444,000	266,000
Washington Street	1,046,000	1,743,000	697,000
Hunt Club Road	203,000	507,000	304,000
Casmir Pulaski Road	NA <sup>a</sup>	232,000	232,000
Rollins Road	589,000	1,188,000	599,000
Sunset Avenue	139,000	348,000	209,000
<b>TOTAL ADDITIONAL IMPERVIOUS AREA</b>			<b>14,505,000 ft<sup>2</sup> (333.0 ac)</b>

<sup>a</sup>These improvements are along new alignment so there is no existing paved area.

**TABLE F-3**  
Compensatory and Detention Storage Requirements, No-Action Alternative (Baseline)

<b>Watershed/ Subwatershed</b>	<b>Roadway Improvement Length (mi)</b>	<b>Compensatory Storage Required (ac)</b>	<b>Detention Storage Required (ac)</b>
<b>Fox River Watershed</b>			
Squaw Creek	0.93	0.3	0.4
Flint Creek	7.00	2.0	3.2
<b>Des Plaines River Watershed</b>			
Buffalo Creek	6.60	1.9	3.0
Bull Creek	8.78	2.5	4.0
Indian Creek	13.13	3.7	5.9
Mill Creek	10.43	2.9	4.7
Upper Des Plaines River	8.91	2.5	4.0
Lower Des Plaines River	3.89	1.1	1.8
Aptakisic Creek	5.50	1.5	2.5
<b>Chicago River Watershed</b>			
Skokie River	1.40	0.4	0.6
Middle Fork	4.64	1.3	2.1
West Fork	6.94	1.9	3.1
<b>TOTAL</b>	<b>78.15</b>	<b>22.0</b>	<b>35.3</b>

**TABLE F-4**  
Storage Requirements Per Reach, No-Action Alternative (Baseline)

Reach Number/ Location	Roadway Improvement Length (mi)	Compensatory Storage Required (ac)	Detention Storage Required (ac)	Opportunities/Constraints for Providing Storage
1	3.10	0.9	1.4	Potential storage site along IL 22 west of Barrington Rd.
2	2.20	0.6	1.0	Potential storage site along IL 22 east of Barrington Rd.
3	1.70	0.5	0.8	Potential storage site along IL 22 east of Lake Zurich at Buesching Rd.
4	2.60	0.7	1.2	Potential storage site along IL 22 west of Quentin Rd and along Quentin south of IL 22.
5	2.00	0.6	0.9	Potential storage site near Buffalo Creek at Quentin Rd and north of US 12.
6	2.40	0.7	1.1	Potential storage site near Buffalo Creek Tributary south of Lake-Cook Rd and north of Lake-Cook Rd east of Quentin Rd.
7	3.50	1.0	1.6	Potential storage sites along IL 22 east of Krueger Rd and east of IL 83.
8	3.00	0.8	1.4	Potential storage site along Butterfield Rd south of Aptakisic Rd.
9	2.70	0.8	1.2	Potential storage site near Aptakisic Creek south of Busch Rd.
10	3.70	1.0	1.7	Potential storage sites along IL 22 east of IL 21 near the Des Plaines River.
11	3.00	0.8	1.4	Potential storage site along IL 22 east of I-94.
12	2.80	0.8	1.3	Potential storage sites along I-94 south of IL 60.
13	3.40	1.0	1.5	Potential storage site along I-94 south of IL 22 near the West Fork North Branch Chicago River.
14	2.10	0.6	1.0	Potential storage site along Lake-Cook Rd east of IL 21 near the Des Plaines River.
15	2.00	0.6	0.9	Potential storage site along Lake-Cook Rd west of IL 21.
16	2.00	0.6	0.9	Potential storage site along Butterfield Rd north of IL 60.
17	3.20	0.9	1.4	Potential storage site along IL 60/83 south of IL 176 and near Diamond Lake.
18	2.50	0.7	1.1	Potential storage site along Peterson Rd at Alleghany Rd.
19	2.40	0.7	1.1	Potential storage site along the Midlothian Rd extension west of Harris Rd.
20	2.20	0.6	1.0	Potential storage site along US 45 south of Peterson Rd.
21	1.90	0.5	0.9	Potential storage site east of Butterfield Rd near Butler Lake.
22	2.30	0.6	1.0	Potential storage site along US 45 south of IL 120.

**TABLE F-4**  
Storage Requirements Per Reach, No-Action Alternative (Baseline)

Reach Number/ Location	Roadway Improvement Length (mi)	Compensatory Storage Required (ac)	Detention Storage Required (ac)	Opportunities/Constraints for Providing Storage
23	4.40	1.2	2.0	Potential storage sites along Washington St near Third Lake, and along US Route 45 near Gages Lake.
24	4.20	1.2	1.9	Potential storage sites south of Washington St west of I-94.
25	4.30	1.2	1.9	Potential storage site along IL 21 south of IL 120 near the Des Plaines River.
26	1.30	0.4	0.6	Potential storage site north of Bradley Rd near I-94.
27	1.40	0.4	0.6	Potential storage site along Martin Luther King Drive east of IL 43.
28	1.00	0.3	0.5	Potential storage site along Casmir Pulaski Rd east of IL 43.
29	1.10	0.3	0.5	Potential storage site along Sunset Ave east of US 41.
30	3.75	1.1	1.7	Potential storage site along Rollins Rd east of IL 83 near Fourth Lake.
<b>TOTAL</b>	<b>78.15</b>	<b>22.0</b>	<b>35.5</b>	

**TABLE F-5**  
Floodplain Crossings, IL 53 Freeway/Tollway Alternative

Watershed/ Subwatershed	Floodplain Crossing Location/Description	Crossing Length (ft)	Improvement Width <sup>a</sup> (ft)	Crossing Type
<b>Proposed IL 53 Mainline, Des Plaines River Watershed</b>				
1. Buffalo Creek	Buffalo Creek south of Cuba Road in the Village of Long Grove.	350	168	Transverse
2. Indian Creek	South Branch of Indian Creek floodplain east of a private road south of IL 22 in the Village of Kildeer.	150	168	Transverse
3. Indian Creek	South Branch of Indian Creek floodplain at a private road south of IL 22 in the Village of Kildeer.	150	168	Transverse
4. Indian Creek	Forest Lake Drain south of Gilmer Road in unincorporated Lake County.	900	168	Transverse
5. Indian Creek	Indian Creek north of Gilmer Road in unincorporated Lake County.	750	168	Transverse
6. Indian Creek	SMC floodplain area south of Indian Creek Road in the Village of Long Grove.	50	168	Transverse
7. Indian Creek	Seavey Drainage Ditch south of IL 176 in the Village of Mundelein.	100	168	Transverse
8. Bull Creek	Bull Creek south of proposed Peterson Road interchange in unincorporated Lake County.	50	168	Transverse
<b>Proposed IL 120 Mainline, Fox River Watershed</b>				
9. Squaw Creek	SMC floodplain area west of the proposed Fairfield Road interchange in unincorporated Lake County.	600	168	Transverse
10. Squaw Creek	Squaw Creek west of the proposed Alleghany Road interchange in the Village of Hainesville and unincorporated Lake County.	4,550	168	Transverse
<b>Proposed IL 120 Mainline, Des Plaines River Watershed</b>				
11. Mill Creek	Mill Creek east of the proposed Alleghany Road interchange in the Village of Grays Lake.	200	168	Transverse
12. Mill Creek	Mill Creek floodplain east of the proposed Alleghany Road interchange in the Village of Grays Lake.	50	168	Transverse

<sup>a</sup> The improvement width of the typical cross section is assumed to be 168 feet, as depicted on Table F-2.

**TABLE F-6**

Historic Flooding Locations, IL 53 Freeway/Tollway Alternative—Proposed IL 53 Mainline, Des Plaines River Watershed

Watershed/ Subwatershed	Floodplain Crossing Location	Flooding History	Improvement Description
Buffalo Creek	Buffalo Creek located south of Cuba Road.	In the Village of Long Grove, Buffalo Creek flooded in 1957 and reached an elevation of 722 feet at McHenry Road.	Proposed IL 53 mainline, 6-lane improvement.
Indian Creek	South Branch Indian Creek located east of a private road south of IL 22.	In the Village of Kildeer, South Branch Indian Creek flooded in March 1960 and April 1965.	Proposed IL 53 mainline, 6-lane improvement.
Indian Creek	South Branch Indian Creek located at a private road south of IL 22.	In the Village of Kildeer, South Branch Indian Creek flooded in March 1960 and April 1965.	Proposed IL 53 mainline, 6-lane improvement.

**TABLE F-7**

Additional Impervious Area, IL 53 Freeway/Tollway Alternative

Mainline Routes and Associated Feeder Roads	Existing Paved Area (ft <sup>2</sup> )	Proposed Paved Area (ft <sup>2</sup> )	Additional Impervious Area (ft <sup>2</sup> )
IL 120 Existing Mainline	1,906,000	4,103,000	2,197,000
IL 120 Proposed Mainline	NA <sup>a</sup>	4,383,000	4,383,000
IL 120 Feeder Roads	398,000	941,000	543,000
IL 120 Interchanges	240,000	1,562,000	1,322,000
IL 53 Proposed Mainline	NA <sup>a</sup>	9,472,000	9,472,000
IL 53 Feeder Roads	380,000	934,000	554,000
IL 53 Interchanges	160,000	888,000	728,000
<b>TOTAL ADDITIONAL IMPERVIOUS AREA</b>			<b>19,199,000 (440.7 ac)</b>

<sup>a</sup> These improvements are along new alignment so there is no existing paved area.

TABLE F-8

Compensatory and Detention Storage Requirements, IL 53 Freeway/Tollway Alternative

<b>Watershed/ Subwatershed</b>	<b>Roadway Improvement Length (mi)</b>	<b>Compensatory Storage Required (ac)</b>	<b>Detention Storage Required (ac)</b>
<b>Fox River Watershed</b>			
Fish Lake Drain	1.19	1.0	1.2
Squaw Creek	8.78	7.6	8.6
<b>Des Plaines River Watershed</b>			
Buffalo Creek	4.22	3.7	4.2
Bull Creek	4.92	4.3	4.8
Indian Creek	9.89	8.6	9.7
Mill Creek	4.36	3.8	4.3
Upper Des Plaines River	13.79	12.0	13.5
<b>TOTAL</b>	<b>47.15</b>	<b>41.0</b>	<b>46.3</b>

**TABLE F-9**  
Storage Requirements Per Reach, IL 53 Freeway/Tollway Alternative

Reach Number/ Location <sup>a</sup>	Roadway Improvement Length (mi)	Compensatory Storage Required (ac)	Detention Storage Required (ac)	Opportunities/Constraints for Providing Storage
1	1.19	1.0	1.2	Potential storage site along IL 120 east of US 12.
2	4.75	4.1	4.7	Potential storage site along IL 120 east of Fairfield Rd.
3	4.03	3.5	4.0	Potential storage site south of IL 120 near Squaw Creek.
4	4.36	3.8	4.3	Potential storage site south along IL 120 at Alleghany Rd.
5	9.41	8.2	9.2	Potential storage site along IL 120 east of IL 21 at the Des Plaines River.
6	4.38	3.8	4.3	Potential storage sites along IL 120 west of Waukegan Road, and along I-94 south of IL 21.
7	4.92	4.3	4.8	Potential storage sites along IL 53 east of IL 83 and south of IL 176.
8	6.18	5.4	6.1	Potential storage site along IL 53 north of Gilmer Rd.
9	4.22	3.7	4.1	Potential storage sites along IL 53 north of Dundee Rd/IL 68 and north of Lake-Cook Rd.
10	3.71	3.2	3.6	Potential storage site along IL 53 south of IL 22.
<b>TOTAL</b>	<b>47.15</b>	<b>41.0</b>	<b>46.3</b>	

<sup>a</sup> Reaches 1, 2, 5 and 6 include improvements to IL 120; Reaches 3, 4, 7, 8, 9, and 10 include improvements to IL 53.

**TABLE F-10**  
Floodplain Crossings, IL 83/US 45 with US 12 Alternative

Watershed/ Subwatershed	Floodplain Crossing Location/Description	Crossing Length (ft)	Improvement Width <sup>a</sup> (ft)	Crossing Type
<b>IL 83/US 45 Mainline, Des Plaines River Watershed</b>				
1. Buffalo Creek	Buffalo Creek west of IL 83 in the Village of Long Grove.	350	48	Transverse
2. Indian Creek	South Branch of Indian Creek at Oak Grove Road south of IL 22 in the Village of Long Grove.	250	10	Transverse
3. Indian Creek	Indian Creek north of Gilmer Road in unincorporated Lake County.	2,500	40	Transverse
4. Indian Creek	Diamond Lake Drain south of US 45 in the Villages of Long Grove and Vernon Hills.	150	40	Transverse
5. Indian Creek	Seavey Drainage Ditch south of IL 176 in the Village of Mundelein.	100	88	Transverse
6. Bull Creek	Bull Creek south of the proposed Peterson Road interchange in unincorporated Lake County.	50	88	Transverse
<b>IL 83/US 45 Feeder Roads, Des Plaines River Watershed</b>				
7. Indian Creek	IL 60 – Diamond Lake Drain east of US 45 in the Village of Mundelein.	100	40	Transverse
8. Indian Creek	Midlothian Road – Indian Creek west of IL 83 in the Village of Long Grove and unincorporated Lake County.	50	24	Transverse
<b>IL 83/US 45 Interchanges, Des Plaines River Watershed</b>				
9. Indian Creek	Des Plaines River floodplain northwest of proposed IL 83/IL 22 interchange in the Village of Long Grove.	250	32	Longitudinal
<b>IL 21 Mainline, Des Plaines River Watershed</b>				
10. Aptakisic Creek	Aptakisic Creek south of Deerfield Road in unincorporated Lake County.	200	16	Transverse
11. Lower Des Plaines River	Des Plaines River floodplain at Deerfield Road in the Village of Buffalo Grove and unincorporated Lake County.	850	16	Longitudinal
12. Lower Des Plaines River	Des Plaines River floodplain north of Deerfield Road in the Village of Buffalo Grove and unincorporated Lake County.	2,100	16	Longitudinal
13. Indian Creek	Des Plaines River floodplain south of IL 22 in the Village of Lincolnshire.	450	16	Longitudinal
14. Indian Creek	Indian Creek south of IL 22 in the Village of Lincolnshire.	150	16	Transverse
15. Lower Des Plaines River	Des Plaines River floodplain north of IL 22 in the Village of Vernon Hills.	100	8	Longitudinal
16. Lower Des Plaines River	IL 60 – Des Plaines River floodplain east of IL 21 in the Village of Vernon Hills and unincorporated Lake County.	1,850	40	Transverse

**TABLE F-10**  
Floodplain Crossings, IL 83/US 45 with US 12 Alternative

Watershed/ Subwatershed	Floodplain Crossing Location/Description	Crossing Length (ft)	Improvement Width <sup>a</sup> (ft)	Crossing Type
17. Lower Des Plaines River	St. Mary's Road – Unnamed creek floodplain north of IL 60 in unincorporated Lake County.	300	48	Transverse
18. Upper Des Plaines River	IL 137 – Des Plaines River east of IL 21 in unincorporated Lake County.	1,850	40	Transverse
19. Upper Des Plaines River	IL 137 – Tributary No. 1 east of IL 21 in unincorporated Lake County.	750	40	Transverse
20. Upper Des Plaines River	IL 137 – Tributary No. 1 floodplain west of St. Mary's Road in unincorporated Lake County.	700	20	Longitudinal
21. Bull Creek	Bull Creek north of IL 137 in unincorporated Lake County.	350	40	Transverse
22. Upper Des Plaines River	Belvidere Road Tributary south of US Route 120 in the Village of Gurnee.	200	48	Transverse
23. Upper Des Plaines River	Warren Cemetery Tributary south of I-94 in the Village of Gurnee.	300	48	Transverse
24. Upper Des Plaines River	Des Plaines River floodplain south of IL 132 in the Village of Gurnee.	100	20	Longitudinal
<b>IL 21 Feeder Roads, Des Plaines River Watershed</b>				
25. Indian Creek	IL 60 – Seavey Drainage Ditch floodplain west of IL 21 in the Village of Vernon Hills.	300	24	Transverse
26. Indian Creek	IL 60 – Seavey Drainage Ditch floodplain west of IL 21 in the Village of Vernon Hills.	2,200	12	Longitudinal
27. Indian Creek	US Route 45 – Indian Creek floodplain west of IL 21 in the Village of Vernon Hills.	250	12	Longitudinal
<b>I-94 Mainline, Chicago River Watershed</b>				
28. Middle Fork	Middle Fork North Branch of the Chicago River floodplain south of IL 137 in unincorporated Lake County.	6,550	12	Longitudinal
29. Middle Fork	Middle Fork North Branch of the Chicago River floodplain north of IL 137 in unincorporated Lake County.	50	12	Longitudinal
30. Upper Des Plaines River	Des Plaines River east of IL 21 in unincorporated Lake County.	1,150	24	Transverse
31. Upper Des Plaines River	Warren Cemetery Tributary floodplain north of IL 21 in unincorporated Lake County.	450	12	Longitudinal

<sup>a</sup> The improvement width is equal to the proposed roadway width minus the existing roadway width.

**TABLE F-11**  
Historic Flooding Locations, IL 83/US 45 with US 12 Alternative

Watershed/ Subwatershed	Floodplain Crossing Location	Flooding History	Improvement Description
<b>IL 83/US 45 Mainline, Des Plaines River Watershed</b>			
Buffalo Creek	Buffalo Creek flood-plain located west of IL 83.	In the Village of Long Grove, Buffalo Creek reached an elevation of 722 feet at McHenry Road in 1957.	Proposed IL 83/US 45 mainline, 6-lane improvement.
Indian Creek	South Branch Indian Creek located south of IL 22.	In the Village of Long Grove, South Branch Indian Creek reached an elevation of 697 feet near IL 83 in 1960.	Proposed IL 83/US 45 mainline, 6-lane improvement.
Indian Creek	Indian Creek located north of Gilmer Road.	In areas of unincorporated Lake County, Indian Creek reached an elevation of 808 feet in March 1960 and 805.2 feet in April 1965.	Proposed IL 83/US 45 mainline, 6-lane improvement.
<b>IL 83/US 45 Feeder Roads, Des Plaines River Watershed</b>			
Indian Creek	Indian Creek located west of IL 83.	In the Village of Long Grove, Indian Creek reached an elevation of 700 feet at IL 83 in 1960.	Proposed Midlothian Road/IL 63 4-lane improvement.
<b>IL 21 Mainline, Des Plaines River Watershed</b>			
Lower Des Plaines River	Des Plaines River located at Deerfield Road.	In the Village of Riverwoods, the Des Plaines River flooded in the following years: 1938, 1948, 1950, 1960, and 1970.	Proposed IL 21 mainline, 6-lane improvement.
Lower Des Plaines River	Des Plaines River located north of Deerfield Road.	In the Village of Riverwoods, the Des Plaines River flooded in the following years: 1938, 1948, 1950, 1960, and 1970.	Proposed IL 21 mainline, 6-lane improvement.
Indian Creek	Des Plaines River located south of IL 22.	In the Village of Lincolnshire, the Des Plaines River flooded on the following dates: July 1938, March 1948, April 1950, April 1960, March 1962, June 1970, and March 1976.	Proposed IL 21 mainline, 6-lane improvement.
Indian Creek	Indian Creek located south of IL 22.	In the Village of Lincolnshire, Indian Creek reached an elevation of 697 feet in July 1957.	Proposed IL 21 mainline, 6-lane improvement.
Lower Des Plaines River	Des Plaines River located east of IL 21.	In areas of unincorporated Lake County, the Des Plaines River reached an elevation of 650.2 feet in 1938, 647.5 feet in 1950, and 649.8 feet in 1960.	Proposed Town Line Road/IL 60, 6-lane improvement.
Upper Des Plaines River	Des Plaines River located south of IL 132.	In the Village of Gurnee, the Des Plaines River reached an elevation of 661.9 feet in 1938, 660.9 feet in 1960, and 660.14 feet in 1976.	Proposed IL 21 mainline, 6-lane improvement.
<b>IL 21 Feeder Roads, Des Plaines River Watershed</b>			
Indian Creek	Seavey Drainage Ditch located west of IL 21.	In the Village of Vernon Hills, Seavey Drainage Ditch flooded in July 1957, to an elevation of 684.5 feet at Town Line Road, and in April 1960.	Proposed Town Line Road/IL 60, 6-lane improvement.
<b>I-94 Mainline, Chicago River Watershed</b>			
Upper Des Plaines River	Des Plaines River located east of IL 21.	In areas of unincorporated Lake County, the Des Plaines River reached an elevation of 664.8 feet in 1960 and 664.0 feet in 1962.	Proposed I-94 mainline, 8-lane improvement.

**TABLE F-12**  
Additional Impervious Area, IL 83/US 45 with US 12 Alternate

<b>Mainline Routes and Associated Feeder Roads</b>	<b>Existing Paved Area (ft<sup>2</sup>)</b>	<b>Proposed Paved Area (ft<sup>2</sup>)</b>	<b>Additional Impervious Area (ft<sup>2</sup>)</b>
US 12 Mainline	3,492,000	5,949,000	2,457,000
US 12 Feeder Roads	192,000	288,000	96,000
IL 21 Mainline	5,274,000	9,831,000	4,557,000
IL 21 Feeder Roads	408,000	595,000	187,000
IL 83/US 45 Mainline	2,649,000	9,307,000	6,658,000
IL 83/US 45 Feeder Roads	450,000	955,000	505,000
IL 83/IL 22 Interchange	NA <sup>a</sup>	512,000	512,000
IL 120 Mainline	972,000	2,061,000	1,089,000
IL 120 Feeder Roads	131,000	270,000	139,000
I-94 Mainline	4,003,000	5,338,000	1,335,000
I-94 Feeder Roads	48,000	72,000	24,000
<b>TOTAL ADDITIONAL IMPERVIOUS AREA</b>			<b>17,559,000 (403.1 ac)</b>

<sup>a</sup> These improvements are along new alignment so there is no existing paved area.

**TABLE F-13**

Compensatory and Detention Storage Requirements, IL 83/US 45 with US 12 Alternative

<b>Watershed/ Subwatershed</b>	<b>Distance (mi)</b>	<b>Compensatory Storage Required (ac)</b>	<b>Detention Storage Required (ac)</b>
<b>Fox River Watershed</b>			
Flint Creek	4.40	1.2	2.7
Slocum Lake Drain	2.00	0.5	1.2
Squaw Creek	1.00	0.3	0.6
Tower Lake Drain	2.00	0.5	1.2
<b>Des Plaines River Watershed</b>			
Buffalo Creek	10.78	2.8	6.6
Bull Creek	2.88	0.8	1.8
Indian Creek	8.57	2.2	5.2
Mill Creek	5.99	1.6	3.6
Lower Des Plaines River	10.62	2.8	6.4
Upper Des Plaines River	13.91	3.6	8.4
<b>Chicago River Watershed</b>			
Middle Fork	7.65	2.0	4.6
<b>TOTAL</b>	<b>69.80</b>	<b>18.3</b>	<b>42.3</b>

**TABLE F-14**  
Storage Requirements Per Reach, IL 83/US 45 with US 12 Alternative

Reach Number/ Location <sup>a</sup>	Distance (mi)	Compensatory Storage Required (ac)	Detention Storage Required (ac)	Opportunities/Constraints For Providing Storage
1	3.31	0.9	2.0	Potential storage site along IL 21 south of I-94 near the Des Plaines River.
2	3.13	0.8	1.9	Potential storage sites along IL 21 south of IL 120 near Bull Creek and the Des Plaines River.
3	4.44	1.2	2.7	Potential storage site along IL 137 east of IL 21.
4	2.56	0.7	1.6	Potential storage site along St. Mary's Rd south of IL 176.
5	4.46	1.2	2.7	Potential storage sites along IL 21 south of IL 60 near the Des Plaines River.
6	3.60	0.9	2.2	Potential storage sites along IL 21 south of IL 22 near the Des Plaines River.
7	3.03	0.8	1.8	Potential storage site along I-94 south of IL 21.
8	2.27	0.6	1.4	Potential storage site along I-94 north of IL 137.
9	5.38	1.4	3.3	Potential storage site along I-94 south of IL 137.
10	3.94	1.0	2.4	Potential storage site along US 12 north of Dundee Rd/IL 68.
11	2.50	0.7	1.5	Potential storage sites along US 12 south of Cuba Rd and east of Quentin Rd.
12	2.00	0.5	1.2	Potential storage site along US 12 east of Ela Road.
13	2.40	0.6	1.5	Potential storage site along US 12 at Flint Creek Tributary.
14	2.00	0.5	1.2	Potential storage site along US 12 near Timber Lake.
15	2.00	0.5	1.2	Potential storage site along US 12 south of IL 176.
16	2.00	0.5	1.2	Potential storage site along US 12 at Buffalo Creek Tributary.
17	2.34	0.6	1.4	Potential storage site along IL 83/US 45 at Buffalo Creek Tributary.
18	5.93	1.5	3.6	Potential storage sites along IL 83 south of IL 22 at Kildeer Creek and Buffalo Creek; and south of IL 60 at Diamond Lake Drain and Indian Creek.
19	2.88	0.8	1.8	Potential storage site along IL 83 south of Peterson Rd.
20	2.64	0.7	1.6	Potential storage site along IL 83 south of IL 176.
21	3.46	0.9	2.1	Potential storage site south along IL 120 at Alleghany Rd.
22	2.53	0.7	1.5	Potential storage site along IL 120 east of Atkinson Rd.
23	1.00	0.3	0.6	Potential storage site along IL 120 near Squaw Creek.
<b>TOTAL</b>	<b>69.8</b>	<b>18.3</b>	<b>42.4</b>	

<sup>a</sup> Reaches 1 – 6 include improvements to IL 21; Reaches 7 – 9 include improvements to I-94; Reaches 10 – 15 include improvements to US Route 12; and Reaches 16 – 23 include improvements to IL 83/US45.